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Authors' Affiliation:

¹Assistant professor of dermatology, Medical College, Jouf University, Saudi Arabia

²Faculty of Medicine, Jouf University, Saudi Arabia

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Assessment of public awareness towards skin disease in Jouf region, Saudi Arabia

Ziad Mansour Alshaalan¹, Ziyad Muharib N Alruwaili², Afrah Mohaimeed M Altaymani², Faris Fawaz S Alsharari², Rasha Harbi H Alashjaee², Maram Shafi A Alruwaili², Abdulelah Farhan O Alsharari²

ABSTRACT

Background: In spite of the fact that skin disease is common, to evaluate the public's overall understanding, awareness and knowledge of skin disorders in Saudi Arabia, just one research was carried out. **Objective:** This study aims to assess public awareness toward dermatologic disorders in Jouf region and to assess prevalence of common dermatologic disorders among Saudi populace. **Methodology:** This is a cross-sectional study conducted among Saudi general population in Jouf, Saudi Arabia. Adult participants completed a self-administrated questionnaire to assess knowledge of skin diseases. All data was entered and analyzed using SPSS 23. P-value less than 0.05 were considered for statistical significance. **Results:** The study included 453 participants, 73.5% were women. As for age, 51.4% of participants were more than 25 years old. Only 1.8% of participants think that all skin diseases are chronic while 16.1% think not. 2.9% think that all skin diseases are infectious while 20.8% think not, 2.4% think that all skin diseases are hereditary while 24.5% think not. Regarding prevalence of dermatologic disorders in the study participants, in addition to having 20.8% acne vulgaris, 3.5% had warts and 3.1% had psoriasis. Freckles made up 19.9% of the population, vitiligo 2%, albinism 5.1%, and claret stain 4.9% of the skin pigmentations. Only 0.2% of people had scabies, 11.5% had dandruff, and 50.1% suffered hair loss. **Conclusion:** The findings of the current study indicate that Saudi citizens generally have little understanding about prevalent dermatologic illnesses.

Keywords: skin, acne vulgaris, psoriasis, awareness, Saudi Arabia

1. INTRODUCTION

Skin is the largest organ of the human body, acts as primary barrier against organisms and the environment, preventing disease infiltration as well as chemical and physical injuries. Cutaneous disarrays are ailments that disturb the exterior of the skin. Eruptions, soreness, burning, and added skin abnormalities may be caused by several disorders. While life style factors may contribute to some skin disorders, others may be inherited (Richmond &

Harris, 2014). Because skin disorders are rarely life-threatening, more resources and attention may be focused on diseases that are regarded more critical. Skin disease, on the other hand, has a psychosocial and occupational burden that is often comparable to, if not higher than, that of other chronic medical disorders. According to a new research, illnesses of the cutaneous and subcutaneous tissues rank fourth among non-fatal disorders, after TB, sensory organ disorders, and iron deficiency anaemia (Seth et al., 2017). In most situations, the general occurrence of numerous skin conditions varies by physical and the environmental aspects, as it is, in a specific way, connected to the ethnic, ecological, and social- economic dynamics of a given population (Albahlool et al., 2017).

According to a study conducted in north India the prevalence of dermatological conditions was 45.3%, 33% were infectious; topic dermatitis (9.2%), scabies (4.4%), Tineacorporis (4.1%), and pityriasisalba (3.6%) were most prevalent. Cohabitation with animals was linked to the development of skin illnesses. In 64.7% of dermatological disorders, a health care practitioner stayed not contacted, and of those who were, nearly 69% received unsuitable or inadequate therapies (Grills et al., 2012). Another cross sectional study done in five European countries show wart was the greatest communal dermatologic disease (41.3%) followed by acne then contact dermatitis (Svensson et al., 2018). In Saudi Arabia Meta analysis study reported that dermatitis/ eczema represented a high prevalence of skin disorder, cutaneous leishmaniasis was the most common parasitic skin diseases, while the warts were the greatest communal dermatologic viral infection (Almohideb, 2020). Eczema/dermatitis in 19.5%, virus-related contagions in 16.6%, pilosebaceous ailments in 14.4%, pigmentary injuries in 11.2%, besides hair problems in 7.6% were the top five skin illnesses in the Al-Qassim region, according to a research by Al Shobaili (2010). Males were more likely to have virus-related cutaneous contagions (20.0%), even though females were more likely to have eczema/dermatitis (20.7%) (Al Shobaili, 2010).

A study done in Asir showed a high prevalence of eczema/dermatitis (25.68%) (Bahamdan et al., 1995), Several epidemiological studies were conducted in Saudi Arabia to investigate the patterns of skin disorders (Al Shobaili, 2010; Bahamdan et al., 1995; Alakloby, 2005; Parthasaradhi & Gufai, 1998; Agarwal, 1997). Dermatitis/eczema was the most common dermatosis (19.6%), with a topic dermatitis accounting for 35.9% of eczemas, according to a study conducted in Saudi Arabia's eastern area (Alakloby, 2005). In Hail city similar research done that shows Eczema is the greatest communal dermatological ailment in 37% through topic dermatitis constitute 12% of wholly eczema cases (Parthasaradhi & Al Gufai, 1998).

A 12 months study done in Jouf region in 1997 showed that out of all the skin diseases, eczemas (34.14%) topped the list, followed by pyodermas (10.87%), acne (9.57%), viral infections (8.27%), superficial fungal infections (7.81%), Psoriasis was the most prevalent papulosquamous disorder, although two cases of Cutaneous leishmaniasis were documented. Children were the greatest communal age group with eczema, and Herpes virus was the most common viral skin infection (Agarwal, 1998). However, skin infection prevention and early diagnosis and management of serious skin diseases such as basal cell carcinoma, melanoma, or chronic skin diseases like psoriasis and atopic dermatitis can significantly improve outcomes and reduce healthcare costs.

In spite of the fact that skin disease is common, only one study was conducted to assess the public's general information and alertness of dermatologic disorders in KSA (Kingdom of Saudi Arabia) (Ahmed et al., 2020), Because of this, we are conducting this study in Jouf region to assess the public level of overall information and alertness of dermatologic disorders. It is believed that this study will provide public health experts with information about future public health intervention raise public awareness, plan future campaigns regarding the common and important dermatological conditions.

Study objective

The objective of this cross sectional epidemiological research is to judge the public awareness toward skin diseases in Jouf region.

2. MATERIALS AND METHODS

Survey based cross sectional study design was conducted to assess public awareness toward skin disease in Jouf region, Northern Saudi Arabia, during the period from 1st January to 31st June, 2022. The data was collected using a web base self-administered questionnaire used by Ahmed et al., (2020). The questionnaire is going to be in Google forms and was distributed through social media apps targeting the public of Jouf region. To ensure validity, the questionnaire was validated using a pilot study. While Cronbach's alpha was used to ensure internal consistency and reliability.

Sample size

The statistical website Open Epi was employed to decide the sample size in an infinite population, assuming a level of knowledge well at >60% correct answers, at 5% precision and at a statistical power of 95%. These inputs yielded a sample size of at least 384 participants.

Data collection tool

The data collection tool comprised of two parts: The first part to investigate the demographics and the second part to investigate participants' knowledge regarding skin diseases.

Data analysis

SPSS "Statistical Package for the Social Sciences" program version 23 was used to analyze data. Number, and percent was used to describe quantitative variables, the proportion of acquaintance at >60% correct answers was considered well, correlations was performed between the quantitative variables, the proportion of acquaintance and demographics, a p-value at <0.05 is going to be statistically significant. Collection of date was done through the academic year 2022/2023; the study is expected to be completed in six months after getting the ethical approval.

Ethical approval

Respective approval of the study was obtained from Research Ethics committee in Qurayyat of health affairs with registration number (H-13-S-071). All participants were volunteers and asking to do their best. All data was kept confidential and used only for research purposes.

3. RESULTS

Table (1) shows that, the study included 453 participants, 73.5% of them were females and 26.5% were males. As for age, 51.4% of participants were above 25 years while 33.6% were 21- 25 years old. 35.3% of participants were students. 13.9% work in education sector and 11.7% work in health sector. Knowledge of dermatologic diseases was reported by participants as good in 71.5%, excellent in 14.1% and weak in 14.3%.

It is clear from table (2) that only 1.8% of participants think that all skin diseases are chronic while 16.1% think not. 2.9% think that all dermatologic diseases are infectious while 20.8% think not, 2.4% think that all skin diseases are hereditary while 24.5% think not. Sharing personal belongings was thought to increases the risk of skin diseases by 44.4% of participants. 40.4% think that dermatologic disorders affect social life. 31.8% reported yes that dermatologic disorders can be a barrier between friends, relatives and life partner. 48.3% of participants reported that chronic diseases may have effect of skin. Concerning the prevalence of diverse cutaneous lesions among the contributors, it is clear from table (3) that, 20.8% had acne vulgaris, 10.2% had skin sensitivity, 8.8% had dry skin, 3.5% had warts and 3.1% had psoriasis (Figure 1). As for skin pigmentations, 19.9% had freckles, 2% had vitiligo, 5.1% albinism and 4.9% had claret stain (Figure 2). Regarding hair problems, 50.1% had hair loss, 11.5% had dandruff, and only 0.2% had scabies. Table (4) displays inconsequential link between knowledge of dermatologic disorders and socio demographic features of the contributors ($P>0.05$).

Table 1 Socio demographic features of contributors (n=453).

Parameter		No	%
Gender	Male	120	26.5
	Female	333	73.5
Age	Less than 15	11	2.4
	15 - 20 years old	57	12.6
	21 - 25 years old	152	33.6
	More than 25	233	51.4
Occupation	Student	160	35.3
	Education sector	63	13.9
	health sector	53	11.7
	military sector	15	3.3
	Other	162	35.8
Knowledge of skin diseases	Excellent	64	14.1
	Good	324	71.5
	Weak	65	14.3

Table 2 Knowledge of participants of dermatologic disorders (n=453).

Parameter	Yes	No	Maybe
All skin diseases are chronic	8 1.8%	73 16.1%	372 82.1%
All skin diseases are infectious	13 2.9%	94 20.8%	346 76.4%
All skin diseases are hereditary	11 2.4%	111 24.5%	331 73.1%
Sharing personal belongings increases the risk of skin diseases	201 44.4%	23 5.1%	229 50.6%
Skin diseases affect social life	181 40.0%	57 12.6%	215 47.5%
Skin diseases can be a barrier (obstacle) between friends, relatives and life partner	144 31.8%	84 18.5%	225 49.7%
Chronic disease may have an effect on the skin	219 48.3%	36 7.9%	198 43.7%

Table 3 Prevalence of dermatologic disorders in studied sample (n=453).

Parameter		No.	%
Dermatological diseases are considered	Widespread	102	22.5
	medium spread	273	60.3
	Rare	78	17.2
Presence of any of skin diseases	Warts	16	3.5
	Psoriasis	14	3.1
	White bran	3	.7
	Skin dryness	40	8.8
	Acne vulgaris	94	20.8
	Skin Sensitivity	46	10.2
	None	240	53.0
Presence of any of skin pigmentation	Vitiligo	9	2.0
	freckles	90	19.9
	Claret stain	22	4.9
	Albinism	23	5.1
	None	309	68.2
Presence of any of hair problems	vixen	7	1.5
	scabies	1	.2
	hair loss	227	50.1
	dandruff	52	11.5
	None	166	36.6
Presence of Acne Vulgaris	I do not have (non-affected) acne	160	35.3
	Increases in winter	14	3.1

	Increases in summer	157	34.7
	There is no relationship	122	26.9

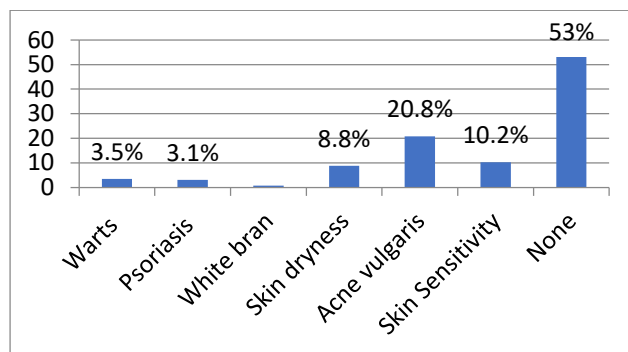


Figure 1 Percentage of skin diseases among the participants

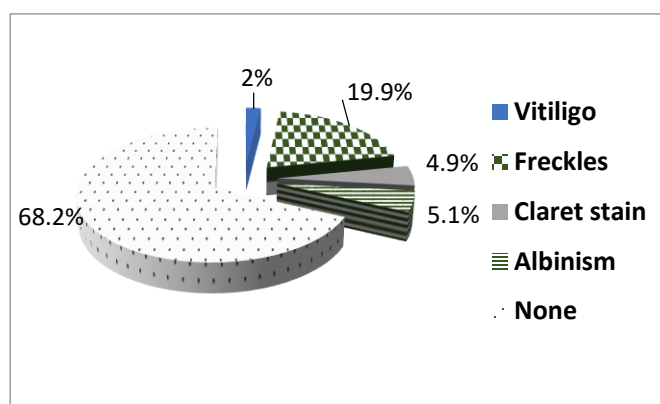


Figure 2 Percentage of skin pigmentation among the participants

Table 4 the relationship between knowledge of dermatologic disorders and Socio-demographic features among the contributors (n=453).

		Knowledge of skin diseases			Total (N=453)	P value
		excellent	Good	Weak		
Gender	Male	14	84	22	120	0.278
		21.9%	25.9%	33.8%	26.5%	
	Female	50	240	43	333	
		78.1%	74.1%	66.2%	73.5%	
Age	Less than 15	1	7	3	11	0.746
		1.6%	2.2%	4.6%	2.4%	
	15 - 20 years old	6	43	8	57	
		9.4%	13.3%	12.3%	12.6%	
	21 - 25 years old	19	111	22	152	
		29.7%	34.3%	33.8%	33.6%	
	More than 25	38	163	32	233	
		59.4%	50.3%	49.2%	51.4%	
Work	Student	21	117	22	160	0.376
		32.8%	36.1%	33.8%	35.3%	
	Education sector	11	44	8	63	

		17.2%	13.6%	12.3%	13.9%	
	Health sector	13	35	5	53	
		20.3%	10.8%	7.7%	11.7%	
	Military sector	1	11	3	15	
		1.6%	3.4%	4.6%	3.3%	
	Other	18	117	27	162	
		28.1%	36.1%	41.5%	35.8%	

4. DISCUSSION

In basic medical facilities in subtropical regions, dermatological conditions are amongst the highest prevalent illnesses observed, yet in certain places where transmissible infections are predominant, they take the lead in terms of appearance (Richard et al., 2022). Skin diseases, for example, were linked to 20,000 deaths in Sub Saharan Africa, according to the WHO 2001 explosion on the wide reaching encumbrance of disease. This burden was comparable to the mortality rates associated with meningitis, hepatitis B, obstructed labour, and rheumatic heart disease in the same region (Zeltner et al., 2017). Risk of mortality is substantial when it results in a worse standard of living, deformity, impairment, or complaints like an unrelenting itchiness. For instance, severe cellulitis in filariasis causes significant suffering, and the consequent immobilization increases isolation and loneliness (Karimkhani et al., 2017). It is challenging to compare the effects of long lasting non dermatological disorders and skin conditions on satisfaction with living.

Dermatological disease patients perceive themselves to be disfigured, stigmatized, or even repulsive, especially when genitalia and certain other obvious portions of the body, indeed the hand and face, are covered in pathologic abnormalities. These emotions can have an adverse impression on dermatological patients' psychological health, as well as their families, social and professional functioning, and are key determinants of worsened QOL (Grimes & Miller, 2018). There's a scanty data regarding general knowledge of common skin diseases either in KSA or on a global level. However, our study shows that 14.1% of participants have excellent knowledge of skin diseases, 71.5% had good knowledge level and 14.3% had weak knowledge.

A previous Saudi study reported that 93.3% of the respondents were considered to have good level of knowledge towards scabies (Altamimi, 2020). Another research was steered in KSA in which the level of knowledge on scabies besides its preemptive dealings was adequate among most of the participants 85.8% (ALshehri et al., 2018). A study in Jeddah city, Saudi Arabia showed that (34, 8%) of studied subjects had weak knowledge related to the disease, (59, 1%) had average level of knowledge while only (6, 1%) had good knowledge regarding acne vulgaris. Furthermore (22, 8 %) reported that felt socially ashamed if they had acne vulgaris (Albahloul et al., 2017). A cross-sectional survey among Saudi citizens reported that (23%) confirming that they had never heard of vitiligo. Majority of participants (59%) supposed that vitiligo is a genetic ailment (Alshammrie et al., 2019).

Descriptive study was adopted in Busia County, Kenya revealed that 68.4% had a hostile perception regarding skin conditions, and 45.9% of respondents believed that they may impede social and recreational activities, (38.1%) agreed that they would be affected if their partner or close friends or relatives had skin disease (Ogombo et al., 2021). A prevalence study was directed in Petaling district, Malaysia established that utmost of the respondents stayed cognizant of the hazard in fluencies of skin infection, 84.9% respondents knew that sharing their belongings known to be a risk factor, The discoveries exhibited that skin infection was correlated with causing problem with friends, relatives and partner (p-value<0.05) (Balakrishnan et al., 2016). The assessment of the prevalence of diseases is of primary importance in planning health policies.

In the current study, 20.8% had acne vulgaris, 10.2% had skin sensitivity, 8.8% had dry skin, 3.5% had warts and 3.1% had psoriasis. As for skin pigmentations, 19.9% had freckles, 2% had vitiligo, 5.1% albinism and 4.9% had claret stain. 50.1% had hair loss, 11.5% had dandruff, and only 0.2% had scabies. Compared to previous literature, inconvenient cutaneous feelings including itching, burning, or drying are reported by many more than 94 million citizens in 27 nations in Europe, according to a research. The far more prevalent ailments were acne (5.4%), topic dermatitis or eczema (5.5%), and fungal skin infections (8.9%). Women were more likely to experience rosacea, alopecia, acne, and eczema (Richard et al., 2022). Another study reported that bacterial skin infection (54.8%) being most prevalent, most of the respondents were aware of the term skin infection (61.5%) (Balakrishnan et al., 2016). Skin conditions pose significant threat to patients' well-being, mental health, ability to function, and social participation, a measure of disability defined broadly by the WHO as a person's ability to be involved and engaged in relations with others (Seth et al., 2017).

Overall, these findings indicate that significant progress toward plum meting the encumbrance of cutaneous disorders could be made thru concentrating on the lesser cluster of disorders, predominantly contagions, which justify the majority of community case load.

5. CONCLUSION

The current study results suggest low knowledge level of Saudi general population about common skin diseases. Despite the high demand for services, many health authorities continue to place a low priority on skin diseases. Addressing the possibility of controlling skin problems through eliminating a widespread and preventable source of sickness should be a realistic objective for effective public health approaches. A good strategy, team, and foundational dermatological formulary could meaningfully impact outcomes.

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Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Ethical approval

Approval to conduct the research was obtained from Research Ethics committee in Qurayyat of health affairs with registration number (H-13-S-071).

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Conflict of interest

The authors declare that there is no conflict of interests

Data and materials availability

All data associated with this study are present in the paper.

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